

Introduction to Webwork Homework System

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What is Webwork?

WebWorK is a homework assignment system that allows professors to give students homework problems and allows students to work on these problems on the Web. Students can use any computer with a reasonably up-to-date web browser to connect to the Worldwide web and to work on the assigned homework. Students may try to answer the problems more than once. After each try, a message will show up to tell whether the answer is correct or not. This allows students to try to find out what they did wrong and hopefully to understand the topic of the question better.

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How do I login and do assignments on Webwork?

You can do these steps:

(Step 1) Go to <http://webwork.math.wvu.edu/Math155-F07/>.

(Step 2): Use your MIX as login, and your 700 ID number as your password.

(Step 3): Work on the problems by the due day.

How do I enter mathematical symbols?

Want	then enter	Examples: it you enter	then you will get
Addition	+	$3 + 4$	$3 + 4$
Subtraction	-	$3 - 4$	$3 - 4$
Multiplication	*	$3 * 4$	$3 * 4$
Division	/	$3 / 4$	$3/4$
Exponentiation	^ or **	$3 ^ 4$ or $3**4$	3^4
square root	sqrt(x)	sqrt(3)	$\sqrt{3}$
cubit root	$x^{1/3}$ or $x^{(1/3)}$	$5^{1/3}$ or $5^{(1/3)}$	$\sqrt[3]{5}$ or $5^{1/3}$
exponential function	exp(x) or e^x	e^2	e^2
logarithm function	log(x)	log(4)	log(4)
natural logarithm	ln(x)	ln(4)	ln(4)
base 10 logarithm	logten(x)	logten(4)	$\log_{10}(4)$

Please note that when you enter a numerical expression, the Webwork Preview will display the numerical equivalence of the expression. For example, if you enter $5^{1/3}$, then Preview will display 1.7099759466767, the (truncated) numerical equivalence of $\sqrt[3]{5}$.

What syntax I should know for entering math expressions?

1. **Use of *.** The two expressions $(1+5)*(2+4)$ and $(1+5)(2+4)$ are both valid answers. But $(1+5)*(2+4)$ might be clearer. Another example is that both $2*3$ and $2 \quad 3$ (a space between 2 and 3, not 34) are representing the same answer, but $3*4$ would be it clearer.

2. **Use of parentheses, 1.** If you want to enter an answer $\frac{2}{3+4}$, do not enter $2/3 + 4$. You should enter $2/(3+4)$. As an example, if you mean $\frac{1+3}{2+4}$, then enter $(1+3)/(2+4)$, not $1+3/2+4$.
3. **Use of parentheses, 2.** If you want to enter an answer $\frac{2}{3*4}$, do not enter $2/3 * 4$. You should enter $2/(3*4)$.
4. **Entering functions.** When entering functions, we recommend to put the variable inside the parentheses. For example, enter $\sin(t)$ for $\sin t$. Note that Webwork will view both $\sin t$ and $\sin t$ as $\sin(t)$. But using parentheses in entering functions is a recommended good practice as it avoids possible errors.
5. **Be careful with tri functions.** We again use sine function as an example. While it is common that we use $\sin^2 x$ to mean $(\sin(x))^2$, it might be wrong to enter $\sin^2 x$. The correct answer should be $(\sin(x))^2$.
6. **Use of parentheses, 3.** If you want to enter an answer $2 + 4\cos^2(3x)$, you can enter $2 + 4(\cos(3x))^2$ or $2 + 4\cos(3x)^2$ or $2 + 4*(\cos(3x))^2$. On the other hand, $2 + 4\cos^2(3x)$ is wrong. Reason: Whatever inside the parentheses will be computed first (such as $(3x)$), then function evaluations ($\cos(3x)$), then exponents ($\cos^2(3x)$), then multiplication and/or division ($4\cos^2(3x)$), and then addition and/or subtraction ($2 + 4\cos^2(3x)$).

How do I use Webwork to improve my Calculus skills and performance?

The coordinator's recommendations are:

1. Regularly attend the lectures and read the related texts and examples before working on the problems.
2. Print a hard copy of the assignment so that it is easier for you study.
3. Rank the assigned problems according to their level of difficulty, and work on the easier ones first. (Such a practice will give you better performance in exams!)
4. After you complete the problems, login Webwork and submit your answers.
5. If your submitted answer is incorrect, do the following:

- (a) Use Preview to check if you had made input errors.
 - (b) Carefully go over your paper and pencil solution, to see if errors have been made.
 - (c) Check your text or your notes to find similar problems explained in class, Redo the problem.
 - (d) If the previous steps still cannot get the correct answer, talk it over to a fellow student, for better understanding of the problem.
 - (e) Bring the problem to your instructor or go to the Math Learning Center or find a tutor.
6. It is always a bad practice to put off working on your assignment till minutes before the deadline. This will almost always produce the worst performance.

FQAs (Coordinator's word: I expect that there would be more problems in our students' minds. Please send your questions to us and we will try our best to provide with you the answers).

1. **If I use webwork, do I need to attend my regular classes?** Webwork is not a Teaching mechanism. You may practice webwork problems to enhance your math skills and understanding of math concepts. But you may still need a human such as your instructor to help you understand a particular topic.
2. **How often should I work on webwork problems? Is it good for me to work on Webwork problems right before the due time?** As Many math problems require understanding the problem before finding a solution, it is recommended that you develop a better study habit and work on a few Webwork problem daily.
3. **Can I work on the webwork problems with my friends?** Yes, you can. In fact, it is highly recommended that you work on the webwork problems in study groups, especially on difficult problems.